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## THE NOSEBURN (TRAGIA, EUPHORBIACEAE) OF WESTERN TEXAS

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Widespread in the arid grasslands and brush of northern Mexico, north to Arizona, Colorado, and Kansas, occur the humble, nondescript, stinging herbs which the English-speaking natives usually call stinging-nettle, and the Spanish-speaking natives *chichicastle*, a term also loosely applied to several stinging herbs. A more specific name, applied by some cowmen in western Texas, is noseburn, an allusion to the effect of the plants on stock. Noseburns are often quite abundant in grazed grasslands, and are among that great retinue of noxious, toxic or unpalatable plants which flourish under the abusive practices of overstocking which are the rule rather than the exception in the rangelands of western Texas. Noseburns can be recognized among our other genera of this family by the weak, trailing or even vine-like stem, the stinging hair, the serrate leaf,

and especially the placement of the short androgynous raceme which is actually terminal, but in development is quickly surpassed by the branch from the axil of the immediately subtending leaf, and thus appears nodal (it has been described as axillary, though it rises on the opposite side of the stem from the leaf).

The habit, leaves, inflorescences, and flowers of our noseburns are somewhat variable. On the basis of combinations of various quantitative characters such as texture of style and narrowness of leaf the German monographers Mueller Argoviensis (1866: 930-935) and Pax and Hoffman (1919: 33-52), the latter of whom tended to follow the former slavishly and uncritically, have discerned at least 9 taxa, species and varieties, among our noseburns. Even more curiously, they distribute these taxa into two different sections of the genus. A synoptic key to these sections may appear more or less as follows, and I say "more or less" because the species descriptions given by these authors contradict the characters given for the more inclusive taxa, and I have had to compile and modify to obtain a clearer picture:

- Stamens (1 —)3(— rarely 4); filaments free or united at the very base; rudiment very small or rarely absent; staminate calyx 3-parted or less commonly 4-parted; pistillate calyx 6-parted or rarely fewer-parted ..... *Tragia* Sect. *Tragia*.  
 Stamens (3 —)4 — 6(— 8 or even rarely 20); filaments commonly coherent; rudiments small or absent; staminate calyx 4- or 5-parted; pistillate calyx 5- or 6-parted .....  
 ..... *Tragia* Sect. *Leucandra* (Klotzsch) Muell. Arg.

Perhaps their haste, governed by the magnitude and ambitiousness of their task, and the paucity of American material available to them, can explain their acceptance of such weak categories.

Exomorphic studies of a large amount of material in the herbarium and in the field in many parts of Mexico and western and southern Texas permit the following statements. The number of stamens is usually 3, but varies to 4 even in the same raceme. The staminate calyx is usually

3-lobed, but again varies to 4-lobed even in the same raceme. Often, after a raceme has produced a number of staminate flowers, the meristematic tip ceases to produce normal flowers, and does not elongate further, but produces a terminal "flower", probably representing the monstrous joining of 2 or more flowers, with 5 or more sepals and 5 to 6 or more stamens (such "flowers" could have been the basis of species and varieties of the "Sect. Leucandra" in our area). Our noseburns commonly have the filaments coherent basally around a minute central rudiment. The pistillate calyxes are usually 6-lobed but sometimes only 5-lobed. The various quantitative characters used by the monographers to distinguish species and varieties occur in every conceivable combination and recombination. No combination of such traits shows the broadscale geographic restriction upon which a subspecies or variety could be founded. Furthermore, the variability in our noseburns is not greater than that encountered in many weedy widespread species of a number of other genera and families.

Our noseburns belong to a single species. Among the congeries of names thus thrown together, the one with priority is *Tragia nepetifolia*. McVaugh (1961: 202-203) says that this name has been "loosely interpreted," and that further study is needed. A study of material from near the type locality, in the state of Hidalgo, convinces me that the referral of our noseburns to *T. nepetifolia* by Harrington (1954) and Shinnars (1958 and 1961) and other writers of floras does not represent a loose or incorrect interpretation. The synonymy and typification are as follows:

*Tragia nepetifolia* Cav. Icones Pl. 6: 37, t. 558, f. 1. 1801.

Between Ixmiquilpan and Zimapán, Hidalgo, *Sessé and/or Mociño* (MA?, F?). If no authentic herbarium material exists, the original illustration will serve as type. Cavanilles misspelled the name "nepetaefolia." *T. ramosa* Torr. Ann. Lyc. N. Y. 2: 245. 1828. Sources of the Canadian River, *James exs. 407* (NY?). *T. nepetaefolia* var. *ramosa* (Torr.) Muell. Arg. DC. Prodr. 15(2): 934. 1866. *T. angustifolia* Nutt. Trans. Amer. Phil. Soc. n.s. 5: 172. 1835. On the prairies of Red River, in arid situations, probably Choctaw County, Oklahoma, Nuttall, end of May, 1819 (BM?, apparent isotype seen labeled merely "Red River, Arkansas," PH). *T. teucrifolia* Scheele, Linnaea 25: 586. 1853.

New Braunfels, Comal County, Texas, *Lindheimer*, July-Sept., 1846 (B?). Blankinship (1907:148) indicates that the type collection has the *exs. No. 522* (*Lindheimer field No. 299*); but the material which reached Scheele probably was not numbered the same as Blankinship's series at MO. *T. nepetaefolia* var. *teucrifolia* (Scheele) Muell. Arg. DC. Prodr. 15(2): 934. 1866. *T. scutellariaefolia* Scheele, *Linnaea* 25: 587. 1853. New Braunfels, Comal County, Texas, *Lindheimer* in July 1846 (B?); Blankinship (1907:148) says the type is numbered *exs. 521* (*Lindheimer 298*). *T. stylaris* var. *angustifolia* Muell. Arg. *Linnaea* 34: 180. 1865. The type bore the same *exsiccatae* number as the last. *T. nepetaefolia* var. *scutellariaefolia* (Scheele) Muell. Arg. DC. Prodr. 15(2): 934. 1866. *T. ramosa* var. ? *leptophylla* Torr. Bot. Mex. Bound. p. 201. 1859. "Near Howard's Springs; *Bigelow*; No. 1796, *Wright*." *T. stylaris* var. *leptophylla* (Torr.) Muell. Arg. *Linnaea* 34: 181. 1865. *T. nepetaefolia* var. *leptophylla* (Torr.) Shinnars, *Southw. Nat.* 6: 101. 1961. *T. stylaris* Muell. Arg. *Linnaea* 34: 180, 1865. Novo Mexico, "*Wright 776*", according to Mueller, but this is probably *Fendler 776*, as listed by Torrey (1859: 201), "On the upper Rio Grande, New Mexico," and the type also of *Tragia stylaris* var. (alpha) *latifolia* Muell. Arg. *Linnaea* 34: 180. 1865. *T. nepetaefolia* var. *latifolia* Muell. Arg. DC. Prodr. 15(2): 934. 1866. Novo Mexico [probably western Texas], *Wright exs. 1794*; Mueller also cites three Mexican collections, *Aschenborn*, *Hartweg 82*, and *Virlet d'Aoust 121* (all G?). *T. nepetaefolia* var. *amblyodonta* Muell. Arg. DC. Prodr. 15(2): 934. 1866. Novo Mexico [probably western Texas], *Wright exs. 1793* (G?). *T. amblyodonta* (Muell. Arg.) Pax & K. Hoffm. *Pflanzenr.* IV 147 IX (Heft 68), p. 51, 1919. *T. scandens* M. E. Jones, *Extr. Contr. West. Bot.* 18: 49. 1933, non Muell. Arg. 1865, synonymy fide C. V. Morton, *Contr. U. S. Nat. Herb.* 29: 108-109. Guaymas, Sonora, *M. E. Jones 23300*, Jan. 26, 1927 (POM). [Morton's synonymy must be regarded as tentative.] *Tragia nepetaefolia* var. *angustifolia* Muell. Arg. DC. Prodr. 15(2): 934. 1866. Texas, *Berlandier 2542* (G?). The specimen was taken between Matamoros and Goliad, southern Texas, in April or May, 1834.

Perennial herbs 5-35 cm. tall with short white rigid stinging hairs; taproot 1-5(-12) mm. thick, brownish-white, often contorted; stems few to many from the woody crown, the lower parts often buried, brownish-white, resembling branched rootstocks; lower aerial stems 1-2 mm. thick, 5-50 cm. long, often purplish-green basally, green to grayish-green distally, weak and trailing or decumbent or even erect (ours never twining), profusely alternately branched; branches not greatly diverging; internodes 0.6-3(-9) cm. long. Leaves alternate; blades linear-lanceolate to deltoid or even reniform, with or without weak hastate lobes basally, or even ovate, 1-4.5 cm. long (or slightly longer in Val Verde County specimens), 0.7-6(-9) times as long as broad, apically acute, basally truncate to cordate, marginally sharply serrate, thin, green, pubescent; petioles slender, 2-10(-15) mm. long

(or to 30 mm. in Val Verde County) on lower leaves and often at an angle to the blade, 1-2(-4) mm. long on upper leaves, parallel to blade; stipules lanceolate, acute, entire, ca. 1-2.5 (-3.3) mm. long, green but persistent and drying brown, glabrate. Flowers monoecious, in androgynous ascending peduncled racemes 1.5-5 cm. long, at the nodes opposite the leaves (actually terminal and quickly surpassed by the branch from the axil of the subtending leaf, this branch parallel to the previous internode, thus appearing as a continuation of a single main stem); peduncles 1-10 mm. long; the single, lowermost node pistillate, the remainder 3-20+ nodes staminate, with internodes 0.5-1.8 mm. long; bracts oblanceolate, subcucullate, ca. 1-2 mm. long, acute, pubescent, entire. Staminate flowers: pedicels slender, 0.6-2 mm. long, with zone of abscission near middle, the lower part persistent; sepals 3-4 (usually 3 but varying even on same raceme), valvate in bud, oblanceolate to narrowly obovate-oblong, 1-1.7 mm. long, glabrous or sparingly pubescent dorsally, spreading or reflexed at anthesis; petals none; glands none; stamens 3-4, usually 4 but varying even on same raceme [note that the terminal "flower" (probably representing the monstrous joining of 2 or more flowers and not noticed until the raceme is considerably elongated) sometimes has 5+ sepals and 5-6+ stamens, as contrasted with the truly axillary flowers, and as described for *T. stylaris*]; filaments thickened and fleshy, ca. 0.4-0.5 mm. long, connate basally; rudiment none or a minute central eminence between the connate portions of the filaments. Pistillate flowers: pedicels ca. 1 mm. long, elongating to 2-3 mm. in fruit; sepals 5-6, usually 6, imbricate in bud, elliptic-lanceolate, ca. 1-1.5 mm. long at anthesis, ca. 2-2.5 mm. long in fruit, acute, entire, hispid dorsally; petals and glands none; ovary nearly round, densely long erect hispid; styles 3, connate a third their lengths, 2-4 mm. long, entire, papillate-fungoidal on the adaxial surface, coiling outward apically after anthesis, often reddish or purplish. Capsules distinctly roundly trilocular, ca. 3.5-4 mm. long, ca. 6-7 mm. broad, densely erect-hispid; columella slender, whitish, 2-2.4 mm. long, with 3 long interocular points apically. Seeds nearly spherical, ca. 2.7-3.5 mm. long, when mature brownish black with tawny tinge or mottling; superficially smooth but not shiny; ecarunculate.

These plants occur from Veracruz, Hidalgo, San Luis Potosí, and Zacatecas, north to Missouri, Kansas, Colorado, and Arizona; and perhaps much farther south and east (cf. McVaugh 1961: 202-203). They occur in a great variety of circumstances, but are particularly abundant in grasslands at moderate elevations and have been collected at elevations up to 8000 feet in the Guadalupe Mountains of Culberson County, Texas. — THE PLANT RESEARCH INSTITUTE, THE UNIVERSITY OF TEXAS, AUSTIN.

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A NEW SPECIES OF HAPLOPAPPUS,  
SECTION BLEPHARODON

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*Haplopappus texensis* sp. nov.

Herba perennis 3-7 dm. alta; caulibus pluribus (vel unica), erectis, striatis, tomentosus vel glabratis in maturitate; foliis alternis, sessilibus, ad 7 cm. longis et 1.3 cm. latis, oblanceolatis, lobis dentibusque ad apices spinuloso-mucronatis, insuper in maturitate sparse tomentosus vel glabratis, subtuse tomentosus; capitulis pluribus, cymosis; disco dia. 5-8 mm., receptaculis fimbriatis; phyllariis anguste lanceolatis, acuminatis, ad apices spinulosis, dorsis tomentosus, ca. 5 mm. longis et 1 mm. latis; radiis 22-28, 1-1.5 cm. longis; disci corollis glabris, 5.5-6 mm. longis; achaeniis turbinatis, pubescentis, 2.4-2.8 mm. longis; pappis 6-6.8 mm. longis.

Perennial herb, 3-7 dm. tall, stems one to several, erect, striate, tomentose or glabrate with age; leaves alternate, sessile, up to 7 cm. long and 1.3 cm. wide, oblanceolate, the basal ones lobed, the median ones dentate, lobes and teeth spinulose-mucronate, sparsely tomentose above or glabrate with age, tomentose below; heads several, cymosely arranged; disc diam. 5-8 mm., receptacle frimbriate; phyllaries narrowly lanceolate, acuminate, tomentose on the backs, spinulose at the